

Notice of Allowability

Application No.

09/767,522

Applicant(s)

PROCTOR ET AL.

Examiner

James S. Wozniak

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 4/6/2006.
2. ☒ The allowed claim(s) is/are 8,9,11-14,21-25 and 27-29 (now 1-14).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Amendment

1. In response to the office action from 1/10/2006, the applicant has submitted an amendment, filed 4/6/2006, amending claims 11 and 21, while adding claims 22-29 and arguing to traverse the art rejection based on the limitation regarding the step of determining that a first frame rate was in error based on a second frame rate to produce an error determination (*Amendment, Pages 6-8*). Applicant's arguments have been fully considered, and claims 8-9, 11-14, 21-25 and 27-29 are allowable over the prior art of record in light of the below examiner's amendment and reasons for allowance.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jeffrey Jacobs on 4/26/2006

3. The application has been amended as follows:

Amend claim 9 as follows:

A method comprising the steps of:

receiving a first frame;

determining a first frame rate for the first frame;

decoding the first frame according to the first frame rate to produce a speech decoder filter state;

receiving a second frame;

determining a second frame rate for the second frame;

determining, based on the second frame rate, if the first frame rate was in error to produce an error determination;

updating the speech decoder filter state based on the error determination to produce an updated speech decoder filter state;

decoding the second frame using the updated speech decoder filter state, wherein the step of determining, based on the second frame rate, if the first frame rate was in error comprises the step of determining if a transition from the first frame rate to the second frame rate was invalid for not conforming to pre-defined, vocoder, rate-transition rules.

Amend claim 25 as follows:

An apparatus comprising:

means for determining a first frame rate for a first frame;

means for decoding the first frame according to the first frame rate to produce a speech decoder filter state;

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means for determining a second frame rate for a second frame;

means for determining, based on the second frame rate, if the first frame rate was in error to produce an error determination;

means for updating the speech decoder filter state based on the error determination to produce an updated speech decoder filter state;

means for decoding the second frame using the updated speech decoder filter state, wherein the means for determining, based on the second frame rate, if the first frame rate was in error comprises means for determining if a transition from the first frame rate to the second frame rate was invalid for not conforming to pre-defined, vocoder, rate-transition rules.

Cancel claims 10 and 26.

Allowable Subject Matter

4. Claims 8-9, 11-14, 21-25 and 27-29 are allowable over the prior art of record.

5. The following is an examiner's statement of reasons for allowance:

With respect to Claims 9 and 25, the prior art of record fails to explicitly teach or fairly suggest a method and system for detecting and correcting a frame rate determination comprising: receiving an enhanced variable rate codec (EVRC) compressed speech frame, determining whether the frame rate is one of three possible EVRC frame rates (*full, half, or eighth rate, specification, Page 5, Lines 22-34*), receiving a second EVRC compressed speech frame,

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determining the frame rate of the second speech frame, detecting whether the first frame rate determination was incorrect based on predefined rate transition rules (*specification, Page 6, Line 24- Page 7, Line 10*), resetting pitch, vocal tract, and post filter states upon detection of an incorrect frame determination of the first frame (*specification, Page 10, Line 35- Page 11, Line 6*), and decoding the second speech frame using the updated speech decoder filter states.

Although Chen (*U.S. Patent: 5,751,725*) discloses a means for detecting suspected frame rate determination errors utilizing adaptive SER thresholds that are adjusted based on a difference between first and second frame rates (*Col. 11, Lines 16-30; and Col. 9, Lines 54-67*), the frame determination error detection in Chen is threshold-based and not dependent upon successive frame transition rules as is recited in the presently claimed invention. Also, Chen additionally fails to teach the step and means for resetting pitch, vocal tract, and post filter states upon detection of an incorrect frame determination of a first frame.

Although Jacobs et al (*U.S. Patent: 5,414,796*) discloses a variable rate speech coding system utilizing a decoder capable of determining a speech frame rate (*Col. 14, Line 61- Col. 15, Line 51*) and changing pitch filter and excitation parameters based on frame rate (*Col. 7, Lines 33-36*), Jacobs does not specifically teach or fairly suggest a means for detecting an error in such a frame rate determination or how the determination can be made based upon successive frame transition rules.

Thus, claims 9 and 25 are allowable over the prior art of record.

Claims 8, 11-14, 21-24, and 27-29 further limit allowable independent claims, and thus, are also allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


Isabelle (*U.S. Patent: 6,397,177*)- teaches the use of frame transition rules in a speech encoder, but does not explicitly teach or fairly suggest the use of such rules in detecting an incorrect frame rate determination at a decoder.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached at (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
5/2/2006



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